



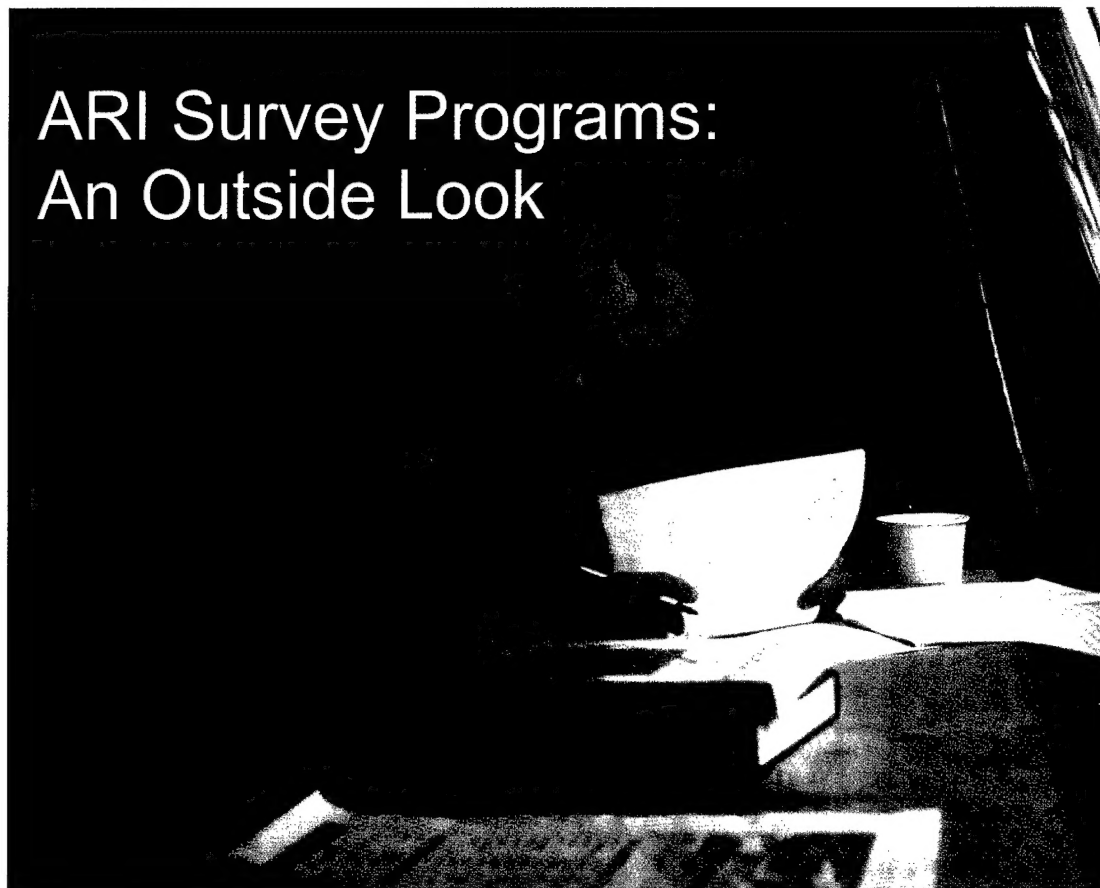
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## The Gallup Organization

### ARI Survey Programs: An Outside Look



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### 14. ABSTRACT (Maximum 200 words)

The aim of this project was to assess the quality of ARI's current survey programs, make recommendations for improving them, and to draft regulations that incorporated these recommendations and brought the regulations up to date. Information was gathered about ARI's current attitudinal, command climate, and occupational analysis studies by examining survey documentation and speaking with the staff who carry out the studies. Information was also collected about a number of comparable surveys done by the other services, academic survey organizations, and private firms, and the users of the ARI surveys were queried to assess their satisfaction with ARI's services. ARI was found to use sound methods, comparable to those used by other survey organizations and it achieved similar response rates, and ARI customers expressed a high level of satisfaction. Recommendations are made for continuing enhancement of ARI survey programs.

### 15. SUBJECT TERMS

Surveys; Attitudes; Command Climate; Occupational Analysis

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# The Gallup Organization

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## ARI Survey Programs: An Outside Look

Roger Tourangeau  
Darby Miller Steiger  
*The Gallup Organization*

*"Akin to, and largely responsible for the sweeping changes in our industrial-military posture, has been the technological revolution during recent decades.*

*In this revolution, research has become central..."*

President Dwight David Eisenhower,  
Farewell Address to the Nation, January 17, 1961



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## Foreword

In December of 1997, the Army Research Institute launched a review of our survey programs. ARI has been conducting surveys of soldiers for more than 50 years, since the Army survey program was established by Gen. George C. Marshall in 1943.

This review had three purposes: to examine ARI's wide range of surveys and methodologies; to determine whether ARI could benefit by adopting some of the methodologies used by other survey organizations and new emerging technologies; and to make recommendations to ensure ARI's surveys and methodologies continue at the leading edge and remain in line with the best practices of other organizations.

We selected The Gallup Organization to carry out this independent audit. Gallup used its internal experts, as well as a panel of internationally renowned outside experts in survey methods, to assess ARI's survey programs. We were impressed with the quality of Gallup's effort and I am pleased to share with you their findings.

Dr. Edgar M. Johnson  
Director, Army Research Institute



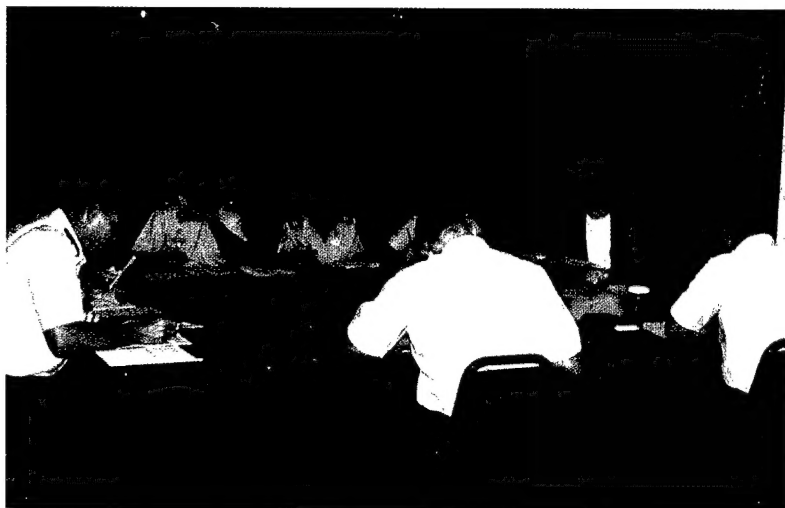
## The Task

*Gallup, one of the oldest & best-known names in survey research, carried out an independent review of ARI's survey programs. Gallup also reviewed the best practices of other survey organizations as a basis for comparison.*

## Assignment

The purpose of Gallup's independent review of ARI was to assess the quality of ARI's current survey programs and to make recommendations for improvement. We were also asked to revise the Army's regulations guiding ARI's survey programs, incorporating our recommendations and bringing the regulations up to date.

In the course of our review, we gathered information about several types of ARI surveys, including opinion, command climate, and occupational analysis studies. We studied survey documentation and interviewed the staff members who carry out the studies. Gallup also gathered similar information about a number of comparable surveys done by the other services (Department of Defense, Navy, Air Force), academic survey organizations (National Opinion Research Center, Institute for Social Research at the University of Michigan), and private firms (Gallup, Personnel Decisions Research Institute, and Harris). In addition, after identifying users of ARI data, Gallup conducted both a focus group and telephone interviews to assess customer satisfaction with ARI's surveys.



Once the data were gathered, Gallup conducted a briefing for the Study Advisory Group, headed by Lt. Gen. Ohle, the Army's Deputy Chief of Staff for Personnel. We also completed a detailed report of our findings, entitled "Modernizing the U.S. Army Research Institute's Attitude and Opinion Survey Programs."

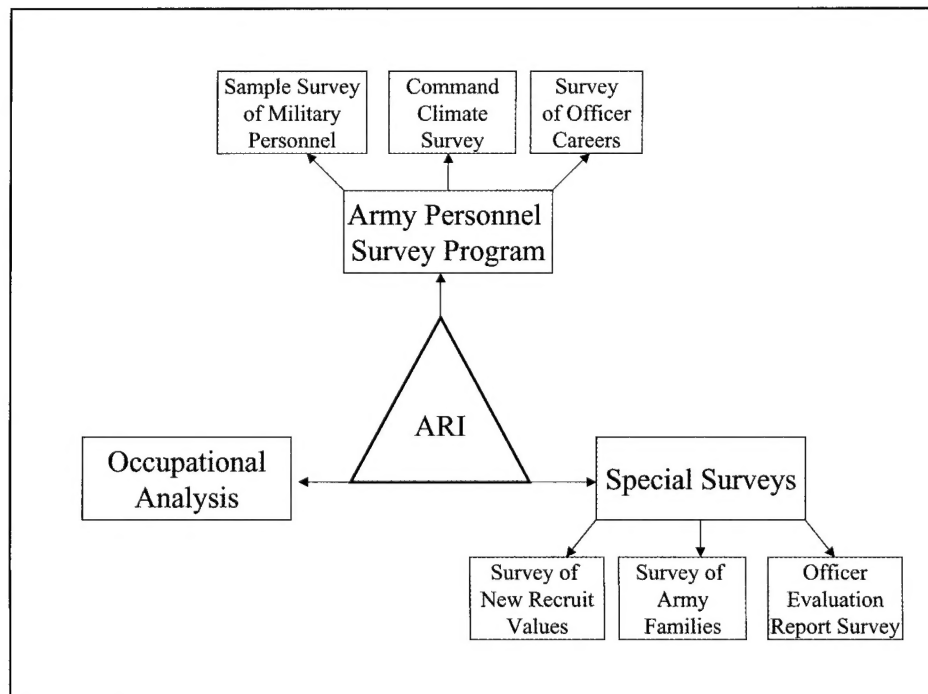
## ARI Surveys

*Gallup examined several ARI surveys encompassing attitude and opinion surveys, occupational analysis studies, and special attitude surveys.*

## ARI's Major Survey Products

ARI conducts a wide range of surveys for its clients in the Army and the Department of Defense. These studies fall into three main categories: 1) continuing attitude surveys, which are done on a regular basis to track the attitudes and opinions of soldiers; 2) special attitude surveys, which are one-time surveys carried out as new issues arise; and 3) occupational analysis studies, which gather information about the specific tasks associated with particular job categories. The special attitude surveys have covered topics ranging from new recruit values to attitudes of Army families to retention in the Military Police Corps.

ARI's main services include clarification of the issues, development of the questionnaire, sampling, collection and processing of the data, and reporting survey results.



## **Covering the Army**

*A survey can only be accurate if it covers every portion of the population of interest, whether that is officers, enlisted personnel, spouses of soldiers, nurses, or chaplains. Errors are introduced into the survey results when part of the population is completely left out.*

### **What ARI Does:**

Many ARI surveys rely on the Army officer and enlisted master files for selecting the sample. These files also provide the addresses of soldiers selected for the survey. These files are good starting points for ARI's surveys because they include information on all soldiers and officers. Because ARI mails some of its surveys directly to the members of the sample, it is important that the addresses be up-to-date. Unfortunately, this is not always the case. Soldiers are a young and mobile population and it can be hard to keep track of their current addresses. This means that when the questionnaires are mailed out, many of those selected to participate in the survey never receive them.

### **What Other Organizations Do:**

Gallup found such problems to be very common. A major reason is that, in both organizations and households, people tend to be mobile. This is especially true in the Department of Defense. The best way to reduce the resulting problems in locating members of the sample is to keep up-to-date records of the location of personnel.

### **Gallup Recommendations:**

It is possible that the inaccurate address information in the Army's personnel management master files has little effect on the survey results, or it may have a large effect. Gallup recommends that ARI undertake a special study to determine how extensive the current address problem is, and how undeliverable mail affects the survey results. This study would help determine whether it is worth the cost to the Army to try to improve the list or to move to a different method of data collection.



## Questionnaire Design

*The results of a survey are only as accurate as the answers to specific questions. The wording and formatting of the questions can affect the quality of the data collected. As a result, survey researchers have developed a range of techniques for developing and testing survey questions.*



### What ARI Does:

ARI surveys involve distributing a questionnaire to members of the sample who answer the questions and send the survey forms back to ARI. This method puts a premium on designing easy-to-understand, easy-to-follow questionnaires. ARI customers appear to be quite satisfied with ARI's survey development procedures. More than 3 out of 5 customers interviewed said they were "very satisfied" with ARI on the development of the survey questionnaire (62%). While pretesting survey questions is a common practice at ARI, it is not a standard procedure for all of ARI's surveys. In addition, items that have been used for many years need to be re-evaluated periodically to make sure they are still up-to-date.

### What Other Organizations Do:

Pretesting is a common practice in the survey organizations Gallup examined. Occasionally, survey organizations also undertake special studies to assess the accuracy of survey responses. Over the past 15 years, there has been a revolution that has introduced new methods for testing survey questions, including the use of focus groups, cognitive interviews, and small pilot studies.

### Gallup Recommendations:

Gallup recommends that ARI strengthen and standardize its pretesting procedures. More specifically, Gallup recommends that all new items be pretested with nine or ten respondents. In addition, automated questionnaires should undergo small-scale "usability" tests to make sure that respondents can easily complete the survey. Finally, items that have been used in the past should be subjected to periodic reevaluation. Expert review panels are a low-cost method for improving questionnaires and might be adopted as part of the standard procedure for developing new items or new questionnaires.

## Response Rates

*Achieving a high response rate is the only way to guarantee that the data reflect the population that was sampled. Data collection methods and operations have a direct impact on survey response rates.*

### What ARI Does:

ARI typically distributes anonymous questionnaires. Because it cannot identify who has returned a questionnaire, ARI cannot target follow-up efforts specifically to those who have not yet completed the survey.

Given this method of contact and the minimal follow-up of a reminder postcard, ARI's response rates are quite respectable.

### What Other Organizations Do:

Response rates are declining throughout the survey research industry.

Survey organizations have tried to counteract this by improving their



efforts at persuasion (via such methods as offering incentives) and by making more attempts to contact the sample members.

Follow-up efforts, such as reminder postcards and second mailings of questionnaires are widely used to combat nonresponse in mail surveys.

### Gallup Recommendations:

Gallup encourages ARI to experiment to find the best combination of changes to maintain and improve response

rates. These might include sending advance letters; developing questionnaires that are easier to understand and complete; improving the cover letter included with the questionnaire; or sending replacement questionnaires or reminder postcards to specific individuals. It is possible to carry out some forms of follow-up without sacrificing the anonymity of the respondents. Such follow-up can help improve response rates.

## Collecting the Data

*The method of collecting the data can have a large effect on people's willingness to participate and on the answers they provide.*

### What ARI Does:

ARI surveys are mostly self-administered. Paper questionnaires are either distributed through local Army distribution channels or are mailed directly to respondents. The data are then scanned in by machine. ARI has begun to incorporate new data collection technologies, such as disk-by-mail and other forms of computer administration, in its data collection efforts.

### What Other Organizations Do:

Most of the comparison surveys Gallup examined use some form of computer assisted interviewing, ensuring that the right questions are administered in the right order and that question options are rotated appropriately. Although most surveys outside of ARI are currently conducted by telephone, many organizations have begun to adopt new methods of data collection, based on emerging technologies such as touch-tone data entry, voice recognition, e-mail and Web. Some surveys use a combination of methods to collect data.



### Gallup Recommendations:

Gallup recommends ARI continue to accelerate its adoption of the latest data collection tools. Several of these methods may be particularly well-suited for collecting data from subpopulations of soldiers with direct access to computers or telephones. The transition to these new modes of data collection may require a

substantial testing effort to determine whether the mode itself alters the answers to the questions.

## Processing the Data

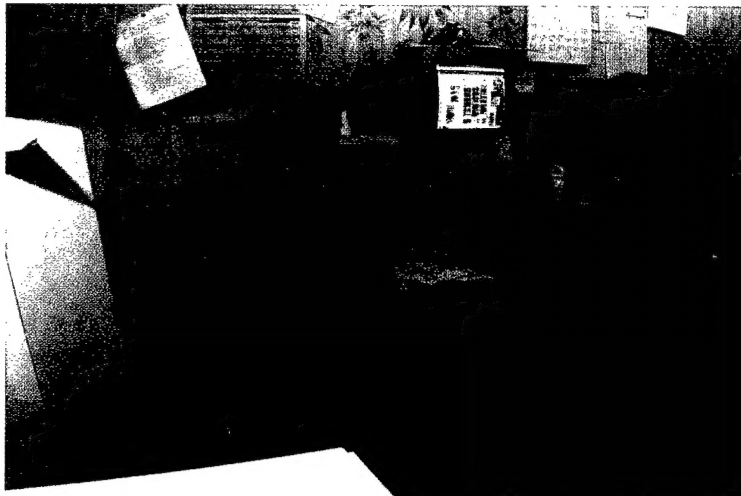
*Data processing is the creation of a dataset from raw survey data. The data is edited, cleaned, and weighted to remove erroneous, highly suspect, or missing values.*

### What ARI Does:

The "bubble-sheet" questionnaires used for most ARI surveys are scanned to create a raw data file. That raw data is then loaded into statistical software for cleaning, editing, weighting and coding of open-ended items. For some surveys, outside contractors process the data.

### What Other Organizations Do:

Computerization in data processing reduces the time and expense of coding the data and compiling a usable data set. For self-administered surveys, modern scanning equipment has advanced beyond traditional "bubble-sheet" scanners to Optical Character Recognition (OCR) and Intelligent Character Recognition (ICR) scanners capable of distinguishing among a broad array of character types, and recognizing mistakes and spurious marks with a high degree of accuracy.



### Gallup Recommendations:

Gallup recommends that ARI investigate the use of more sophisticated scanning equipment. Currently, ARI's mail surveys require respondents to indicate their answers by filling in the appropriate bubbles.

Though costly, more sophisticated scanning equipment would permit greater flexibility in the method of responding and efficiency in processing the results. For example, respondents can enter numerical answers that can be scanned. In addition, any steps that permit the automation of data processing can significantly cut the time to provide timely results that help settle emerging policy issues.

## Reporting the Results

*The final product of most surveys is a set of statistics based on the data collected, often summarized as a report. The report should also document the methods used to carry out the research.*

### What ARI Does:

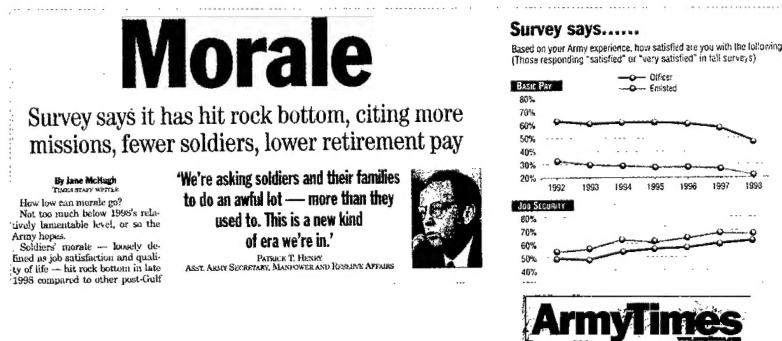
Most ARI surveys report descriptive statistics such as percentages, means, and standard deviations, but each survey has different reporting requirements. For example, while the Sample Survey of Military Personnel (SSMP) usually reports simple percentages, the Survey of New Recruit Values (SNRV) also includes a factor analysis of the results. There are very few reporting elements consistent across ARI report types.

### What Other Organizations Do:

Most of the surveys Gallup examined produce a set of statistics derived from the data at hand, often summarized in a final report. Generally, the reporting process also documents the methods used to conduct the survey. Some organizations, including Gallup, deliver reports in a highly standardized format with relatively little customized analysis while others carry out detailed and sophisticated analyses of the data.

### Gallup Recommendations:

Because it tailors its products to its customers, ARI has not adopted a uniform format for documenting its surveys. Gallup recommends that a minimal methodology report be routinely produced for each ARI study, covering such basic issues as sample design, questionnaire design, the method of data collection, the response rate, and any special procedures used in developing survey estimates (such as weights or imputation of missing values).



## New Directions

*Gallup's report included suggestions for improving ARI's survey response rates, standardizing its pretesting procedures, adopting new data collection technologies, creating a quick turnaround capability, standardizing deliverables, and obtaining systematic customer feedback.*

## Summary of Gallup Recommendations

Gallup's review indicates that ARI is doing a good job. ARI carries out surveys at a relatively low cost, uses methodologically sound procedures, and achieves reasonably high response rates. ARI has moved with the times and is increasingly relying on computer-assisted data collection. Their customers at a wide range of agencies find the data useful and are highly satisfied with ARI's work. ARI's surveys exhibit the same sorts of problems (such as response rate and coverage problems) as the benchmark surveys Gallup examined.

Gallup presented recommendations in six areas. ARI should:

- take steps to improve its response rates;
- strengthen and standardize its pretesting procedures;
- continue to adopt new survey technologies;
- explore the creation of a quick-turnaround capability to respond to emerging policy issues;
- adopt minimal standards for the documentation provided to its customers;
- solicit systematic customer feedback.

"Our review indicates that ARI is doing a good job. It carries out surveys at a relatively low cost, uses methodologically sound procedures, and achieves reasonably high response rates."

Gallup report to ARI  
May 3, 1999